

10/530188

PATENT COOPERATION TREATY

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From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)Applicant's or agent's file reference  
see form PCT/ISA/220**FOR FURTHER ACTION**  
See paragraph 2 belowInternational application No.  
PCT/JP2004/005413International filing date (day/month/year)  
15.04.2004Priority date (day/month/year)  
15.04.2003International Patent Classification (IPC) or both national classification and IPC  
H04B10/20, G02B6/26, H03K19/177, H04Q11/00Applicant  
CANON KABUSHIKI KAISHA

## 1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

## 3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/JP2004/005413

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material:  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing:  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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**Box No. II Priority**

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1. ☒ The following document has not been furnished:
- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
  - ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).
- Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.
2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. Additional observations, if necessary:

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**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-9
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-9
Industrial applicability (IA)	Yes: Claims	1-9
	No: Claims	

2. Citations and explanations

**see separate sheet**

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Reference is made to the following documents:

D1: EP 1213 944 A1

D2: EP 1043 868 A2

D3: US 2002/0156998 A1

----- [lack of inventive step] -----

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1- 9 does not involve an inventive step in the sense of Article 33(3) PCT.

**claim 1**

D1 discloses:

A reconfigurable optoelectronic circuit adapted to alter its internal configuration comprising a plurality of logic blocks of electronic circuit and an optical circuit interconnecting them ( i.e. abstract, Fig.1A, CU )

D1 also discloses that, the reconfiguration of the optical interconnections are alterable (par.21).

D1 does not disclose, if the internal connection of the electronic circuit is alterable or not.

However, D2 discloses using alterable electrical connections to reconfigure the capacity of the end users in an optical network ( par. 3-6 ).

D3 discloses also a reconfigurable optoelectronic network ( abstract, par.6 )

The skilled person would combine either D1 and D2 or D1 and D3 to increase the flexibility of the network.

**claim 2**

The topology of the transmission medium is one of the possible design alternatives for the person skilled in the art.

In D2 the ports either transmit or receive optical signals ( i.e. Fig.1, part no: 108 ). The alterations can be made either reconfiguring the electrical connections in ports or the optical connections in switch matrix.

**claim 3**

The skilled person would choose the type of the connection between various components depending on data rate and distance. The effect of these two parameters on data links is well known in the art.

**claim 4**

Using alterable electrical connections as the kind disclosed in D2 ( par.3- 6 ) implicitly requires that the interconnections between various logic blocks should be alterable. D3 also discloses a system using such circuits ( par.41 ).

**claim 5**

D3 discloses a system, wherein the FPGA's are configured via a data stream in the network ( par. 41 )

**claim 6**

FPGA's have variable logic section and memory section. Some FPGA's ( i.e Xilinx ) use another memory block ( EEPROM ), which keeps the configuration data.

**claim 7**

D3 discloses a circuit consisting of FPGA's, which are capable of to move, copy and or replace the internal configuration of some other logic blocks by way of the optical circuit ( par.41 ).

**claim 8**

D3 discloses a reconfigurable circuit consisting of FPGA's having alterable internal configuration. The second stratum disclosed in claim 8 basically describes a possible topology for the reconfigurable parts in the FPGA, which also is being used by some FPGA manufacturers ( i.e. abstract )

D1 and D3 disclose an optical network interconnecting and switching the logic blocks. The topology of the network is one of the possible choices for the person skilled in the art ( i.e. abstract ).

**claim 9**

See claims 1, 2 and 8

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1-D3 is not mentioned in the description, nor are these

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AUTHORITY (SEPARATE SHEET)**

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documents identified therein.